

GENERIC NAME:

CALCIUM CHLORIDE

112.06

BRAND NAME: Calcium Chloride

CLASS: electrolyte

Mechanism of Action:

Increases extracellular and intracellular calcium levels
Stimulates release of catecholamines
Increases cardiac contractile state (positive inotropic effect)
May enhance ventricular automaticity
Inhibits the effects of adenosine on mast cells

Indications and Field Use:

Acute hypocalcemia
Calcium channel blocker OD
Acute hyperkalemia (known or suspected)
Hypermagnesemia (Magnesium OD)
Pre-treatment for IV verapamil administration

Contraindications:

Hypercalcemia
Concurrent digoxin therapy (relative)

Adverse Reactions:

Brady-asystolic arrest
Severe tissue necrosis if solution extravasates
Use cautiously in patients on digitalis; may cause serious arrhythmias

NOTES ON ADMINISTRATION

Incompatibilities/Drug Interactions:

All drugs -- flush line before and after administration

Adult Dosage:

Hypocalcemia, calcium channel blocker OD, hyperkalemia and hypermagnesemia:
5-10 ml (0.5-1 Gm) of 10% calcium chloride. May repeat in 10 minutes.
Pre-treatment for IV verapamil administration: 3 ml of 10% calcium chloride. May be repeated once.

GD-033-PHS-EMS: Drug Profile for Calcium Chloride

Pediatric Dosage:

Hypocalcemia, calcium channel blocker OD hyperkalemia and hypermagnesemia:
0.2 - 0.25 ml/kg of a 10% solution infused slowly. Should not be repeated without documented calcium deficiency.

Routes of Administration:

IV bolus

Onset of Action:

Seconds

Peak Effects:

3 - 5 minutes

Duration of Action:

15-30 minutes

Dosage Forms/Packaging:

1 Gm/10 ml prefilled syringes

Arizona Drug Box Supply Range:

PARAMEDIC and QUALIFIED IEMT:	1 - 2 prefilled syringes
INTERMEDIATE:	0

Special Notes:

- > For pediatrics, calcium chloride may be diluted with 1-2 ml of NS IV fluid per ml calcium chloride.
- > Concurrent administration of sodium bicarbonate and calcium chloride will produce a precipitate, calcium carbonate (chalk).
- > Studies have shown no benefit from calcium administration in asystole or PEA. There is increasing evidence that calcium increases damage to cells that have been injured and worsens the neurological outcome.
- > Pediatric patients should not receive IV calcium channel blockers such as verapamil, therefore there is no dose for pre-treatment.
- > Use of calcium chloride in treatment of hyperkalemia is a part of a combination drug therapy (See profiles for dextrose and sodium bicarbonate). Insulin may be given upon arrival to ED.
- > Calcium chloride is not recommended in patients with suspected digitalis toxicity.